

AMENDMENTS THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claim 1 (Currently Amended): A method to denoise a stereo signal comprising a stereo sum signal and a stereo difference signal, comprising:

a frequency selective stereo to mono blending based on the masking effect of the human auditory system; and

using noise included in the stereo audio signal as a probe signal and an audio component of the audio signal as a mask signal as parameters in said blending.

Claims 2-3 (Canceled).

Claim 4 (Previously Presented): Method according to claim 1, wherein a number of subbands is determined according to the properties of the human auditory system.

Claim 5 (Previously Presented): Method according to claim 1, wherein a width of a respective subband is determined according to the properties of the human auditory system.

Claim 6 (Previously Presented): Method according to claim 1, wherein every subband of the stereo difference signal which noise component lies above a signal component of a subband of the audio signal corresponding to that of the stereo difference signal is attenuated so that the noise component of the subband of the stereo difference lies below the respective absolute value of masking.

Claim 7 (Currently Amended): Method according to claim 6, wherein

an attenuation factor of a respective subband is determined by dividing the signal component of corresponding to the subband of the audio signal ~~corresponding to the subband of the stereo difference signal~~ by the noise component of the subband of the stereo difference signal.

Claim 8 (Previously Presented): Method according to claim 7, wherein
the attenuation factor of a respective subband is limited to values between 0 and 1.

Claim 9 (Previously Presented): Method according to claim 7, wherein a respective influence factor is subtracted from the attenuation factor of a respective subband to reduce the influence of noise in the signal component to the attenuation signal.

Claim 10 (Currently Amended): Method according to claim 6, wherein the noise component of a subband of the stereo difference signal is determined on basis of ~~its~~ a noise power of the stereo difference signal, which is determined by filtering an in quadrature component of the stereo difference signal into the respective subband and rms filtering the corresponding subband.

Claim 11 (Currently Amended): Method according to claim 10, wherein the noise component of a subband of the stereo difference signal is determined by weighting ~~its~~ a noise power of the stereo difference signal, according to a respective corresponding absolute threshold of masking, the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a

vehicle within which the stereo signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

Claim 12 (Previously Presented): Method according to claim 6, wherein the signal component corresponding to a subband of the stereo difference signal is determined according to the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a vehicle within which the stereo signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

Claim 13 (Previously Presented): Method according to claim 12, wherein the squared subband signal of the in phase component of the stereo difference signal is weighted with a weighting factor according to the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a vehicle within which the stereo signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

Claim 14 (Cancelled).

Claim 15 (Currently Amended): Stereo signal noise reducer, comprising:
a first filter bank configured to split the stereo difference signal into a plurality of subbands,
respective first multipliers configured to weight each of the subbands of the stereo difference signal with a respective corresponding control signal, and

a first adder configured to sum all weighted subbands of the stereo difference signal to build a frequency selective weighted stereo difference signal, wherein

~~characterized in that~~ a number and width of the subbands obtained via the first filter bank are chosen according to the properties of the human auditory system, and by a weighting factor determination unit configured to determine ~~which determines~~ a respective control signal frequency selective based on the masking effect of the human auditory system.

Claim 16 (Currently Amended): Noise reducer according to claim 15, wherein said weighting factor determination unit comprises:

[[-]] a respective division unit configured to determine a ratio of a signal component of each of the subbands of the audio signal corresponding to the subbands of the stereo difference signal to a noise component of each of the subbands of the stereo difference signal.

Claim 17 (Currently Amended): Noise reducer according to claim 16, wherein said weighting factor determination unit comprises:

[[-]] a respective second adder configured to determine the control signal by subtracting a respective influence factor from the output signal of the division unit to reduce the influence of noise in the signal component to said control signal.

Claim 18 (Currently Amended): Noise reducer according to claim 15, wherein said weighting factor determination unit comprises:

[[-]] a mixer and a first lowpass filter configured to determine the noise component of the stereo difference signal by deriving its an in quadrature component of the stereo difference signal, and

[[-]] a second filter bank having the same characteristics as the first filter bank, configured to determine the noise component of each of the subbands of the stereo difference signal.

Claim 19 (Currently Amended): Noise reducer according to claim 18, wherein said weighting factor determination unit comprises:

[[-]] a respective first rms determinator receiving a respective output signal of the second filter bank configured to determine the respective noise power corresponding to the respective noise component of a subband of the stereo difference signal.

Claim 20 (Currently Amended): Noise reducer according to claim 19, wherein said weighting factor determination unit comprises:

[[-]] a respective second multiplier configured to determine the noise component of a subband of the stereo difference signal by weighting the respective noise power according to a respective corresponding absolute threshold of masking, the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a vehicle within which the stereo signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

Claim 21 (Currently Amended): Noise reducer according to claim 16, wherein said weighting factor determination unit comprises:

[[-]] a third filter bank having basically the same characteristics as the first filter bank configured to determine the signal component of each of subbands of the stereo sum signal corresponding to the subbands of the stereo difference signal.

Claim 22 (Currently Amended): Noise reducer according to claim 18, wherein said weighting factor determination unit comprises:

[[-]] a respective second rms determinator receiving respective corresponding output signals of the first filter bank, the third filter bank or the first and third filter banks, configured to determine the respective signal power corresponding to the signal component of each of the subbands of the stereo signal.

Claim 23 (Currently Amended): Noise reducer according to claim 22, wherein said weighting factor determination unit comprises:

[[-]] a respective third multiplier configured to determine the signal component of each of the subbands of the stereo signal by weighting the respective output signal of the first filterbank with a weighting factor according to the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a vehicle within which the stereo signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

Claim 24 (Cancelled).

Claim 25 (Currently Amended): Computer program product, comprising computer program means configured ~~adapted~~ to perform the method ~~steps~~ as defined in claim 1 when it the method is executed on a computer or digital signal processor.

Claim 26 (Currently Amended): The method according to claim 1, further comprising:

determining the frequency selectivity by dividing the stereo difference signal into subbands.